

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

GEOPHILOID CHILOPODS TAKEN IN THE
NORTHERN ANDES IN 1954-1955

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This paper is a report upon the centipeds of the Order Geophilida collected on the California Academy of Sciences Expedition of 1954-55 which covered an area in the Andes Mountains extending from Peru through Ecuador and into Colombia. All specimens herein described or referred to as part of the chilopod collection were taken by Dr. Edward S. Ross and E. I. Schlinger. I feel much obligated to Dr. Ross for the privilege of studying this material which is of no little importance in amplifying our knowledge of the myriopod fauna of the Andean region.

Order GEOPHILIDA
Schendylidae

Schendylurus andesicola new species

Color dull yellow. Length, about 28 mm. Pairs of legs, 47.

Head of form shown in Fig. 1, without frontal suture, overlapping the basal plate which is broadly trapeziform and short. Clypeal area relatively large, bearing two setae. In front of this area two stouter setae and at some distance caudoetad of it on each side a series of four stout setae.

Prehensors when closed a little exceeding the anterior margin of the head, all joints unarmed.

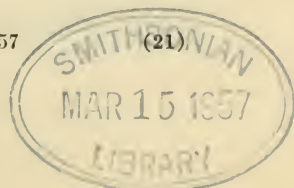
Embayment of the labrum somewhat wider and proportionately shallower than that of *dentifer* but of the same general structure otherwise.

First sternites with a shallow recess beneath a chitinous anterior margin, an obtuse angle of preceding sternite fitting into this recess. Ventral pores in a circular area, beginning on second sternite.

Last sternite broad, its caudal margin convex, the plate bearing a number of long setae and across the caudal border a band of dense, short fine hairs as shown in Fig. 2.

Praetarsus of anal leg represented by a finely acute, straight chitinous point as shown in Fig. 3.

Locality.—Ecuador: 30 mi. S. of Alausi, Chimborazo. Holotype taken February 20, 1955.

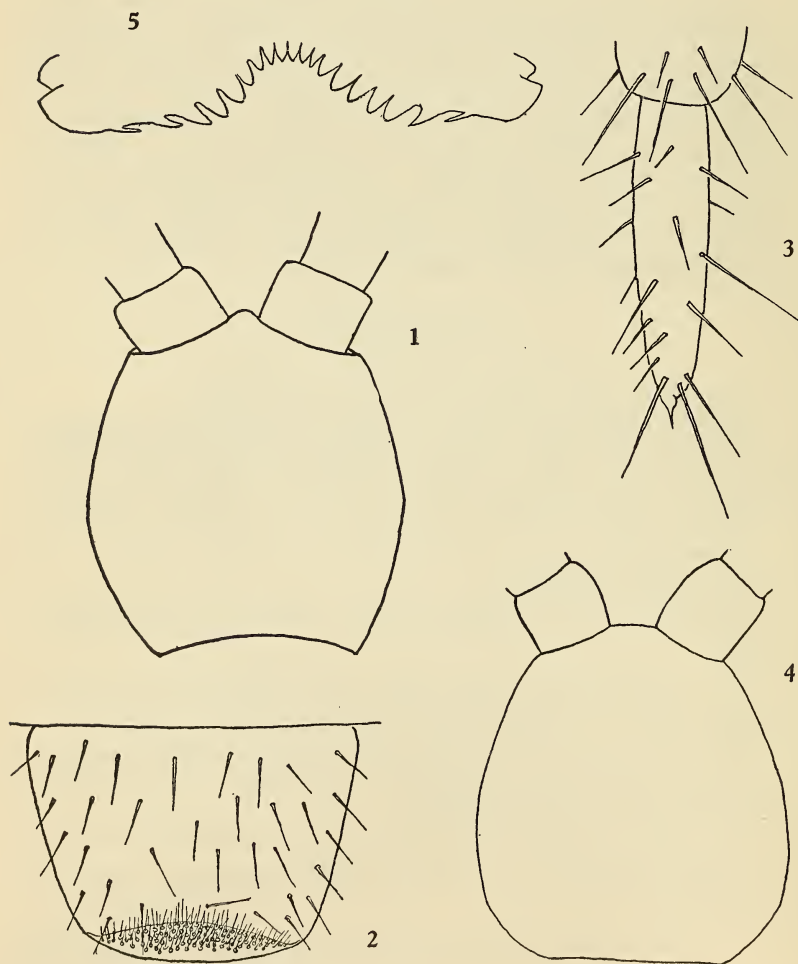


Schendylurus dentifer new species

General color, pale yellow. Length, about 26mm. Pairs of legs, 45.

Form of the head shown in Fig. 4. A spot of reduced polygonal areoles near middle of clypeus. Reentrant angle of labrum deep; teeth stout and conical with exception of two at each lateral end of the series which end in slender tips. (Fig. 5). Claw of second maxillae closely pectinate on both margins. First maxillae bearing a lappet from the syncoxite on each side. Dental plate of mandible divided into three blocks.

Claws of prehensors when closed attaining or slightly exceeding anterior margin of head; each claw with a small but distinct conical tooth at base; other joints unarmed.



No ventral pores on first sternite, a few on second; pores on other sternites in an undivided circular area, numerous.

Last sternite wide, its lateral borders covering the pores on each side.

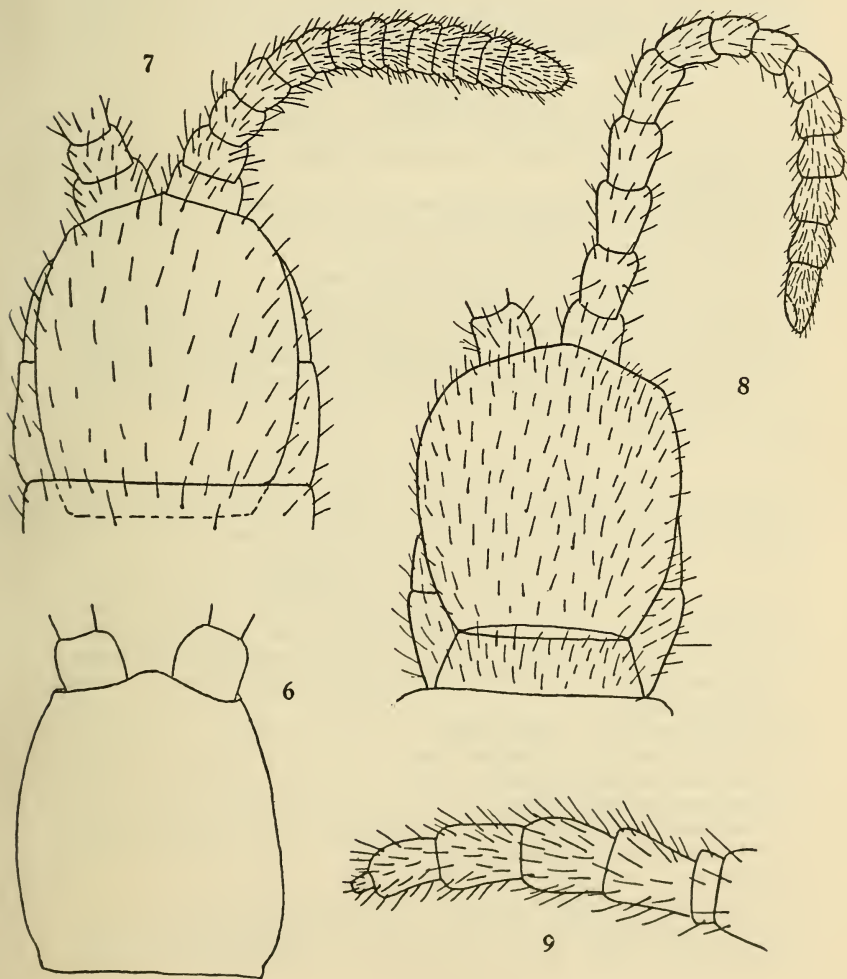
Locality.—30 mi. N. of Latocunga, Cotopaxi. Holotype taken February 21, 1955.

Distinguishable from *andesicola* in the presence of the tooth on claw of prehensors and in having the coxal pores covered, etc.

***Schendylurus pallidus lomanus* new subspecies**

Color plate yellow. Length, 17mm. Pairs of legs, 43.

Clypeal area bearing two setae. In front of this area a second pair of setae.



The head as a whole proportionately broader than in *pallidus* (Fig. 6). First maxillae without external lappets.

Claws of prehensors unarmed and prefemur without tooth or nodular prominence.

Last sternite with caudal and lateral margins convex covering the pores on each side. (Fig. 10.)

Tarsal joints of anal legs slender, without trace of a praetarsus at the tip.

Locality.—Peru: 16 mi. NW Chancay, Loma Lachay. Holotype taken January 12, 1955.

Dr. Kraus gives the number of pairs of legs of his *pallidus* as 53, probably the number in the holotype, without indicating any variation of this number in the paratypes. This contrasts with 43 pairs in the present species which seems also to differ in the form of the last sternite as well as in that of the head. (Cf. fig. 10).

Ballophilidae

Diplethmus ribauti Chamberlin

Locality.—Colombia: 2 mi. W. of Alban, Condin Amarea. One specimen, March 14, 1955.

This species was previously known from Colombia at Camelia, near Angelopolis in the Central Cordilleras.

Genus *Zygethmus*, new

A genus agreeing with *Diplethmus* in having the ventral pores of the sternites in two well separated areas which, however, are not elevated as they are in that genus. It also differs importantly in having only one, instead of two, coxal pore on each side. The nearly vestigial form of the second tarsal article of the anal legs would seem also to be of generic importance.

Generotype.—*Zygethmus pantenus* new species

This new genus may be placed with reference to the other known genera of the family by means of the following key.

Key to Genera of the Ballophilidae

1. Ventral pores diffuse, in an indistinctly limited band on caudal border of sternite; antennae short, with joints broader than long *Taeniolinum* Pocock
- Ventral pores in one or two mostly sharply defined submedian areas; antennae longer 2
2. Ventral pores in a single area 3
- Ventral pores in two circular areas 9
3. Antennae decidedly clavate 4
- Antennae not truly clavate 8
4. Prehensors lacking distinct sclerotic lines *Ballophilus* Cook
- Prehensors with definite sclerotic lines 5
5. Each anal coxa with a single pore 6
- Each anal coxa with two pores 7
6. Coxal pore composite *Clavophilus* Chamberlin
- Coxal pore simple *Tanophilus* Chamberlin

7. Ventral pore area transversely elliptic *Thalthisius* Attems
 -- Ventral pore area strictly circular *Ityphilus* Cook
 8. Antennae short, attenuated distad *Leptyniphilus* Chamberlin
 -- Antennae longer, geniculate, the last six articles set off in form
 and size from the others *Cerethmus* Chamberlin
 9. Coxal pores two on each side; second article of tarsus of anal legs
 of normal size *Diplethmus* Cook
 -- One coxal pore on each side; second tarsal article of anal legs
 greatly reduced, nearly vestigial *Zygethmus* gen. nov.

***Zygethmus pantenus* new species**

Length, 21mm. Pairs of legs, 47.

Head longer than broad in about the ratio of 25:23; anterior margin as a whole convex, the caudal margin wide and straight, the sides gently convex; no frontal suture. Antennae filiform, of uniform thickness throughout, typically curved at middle but not geniculate. (Cf. fig. 8.)

Prebasal plate exposed at middle. Basal plate broadly trapeziform.

Claws of prehensors when closed not attaining the front margin of head. All joints of prehensors unarmed. Prosternum also without teeth, with chitinous lines.

Ventral pores in two well separated areas near middle of sternite; beginning on second sternite; the poriferous areas not at all elevated.

Last ventral plate subtrapeziform but not more than moderately narrowed caudad. A single coxal pore on each side, the gland apparently composite.

Anal legs in the male with all joints crassate except the second tarsal which is abruptly reduced. (Cf. fig. 9.)

Locality.—Ecuador: 8 mi. W. of Pante, Azuay. February 17, 1955.

***Ityphilus calinus* new species**

Length, about 19mm. Pairs of legs, 43.

Antennae curved at middle but not truly geniculate, moderately clavate beyond middle. (Fig. 7.) Claws of prehensors when closed extending a little beyond anterior margin of head. All joints of prehensors unarmed. Prosternum with sclerotic lines, unarmed anteriorly.

Dorsal plates bisulcate.

Ventral pores in the usual single, circular area.

Anal legs in the male conspicuously crassate, its distal article conical.

Last ventral plate broad, moderately narrowed caudad, the sides convex and the caudal corners rounded. Two large coxal pores on each side.

Locality.—Colombia: 13 mi. W. of Cali, Valle. Male holotype taken March 20, 1955.

This species differs from *I. guianensis* in having the antennae much less strongly crassate and less geniculate; also differing in the number of pairs of legs—43 as against 49–55.

Oryidae

***Notiphilides maximiliana* (Humbert and Saussure)**

Locality.—Peru: Monson Valley, Tingo Maria. A male and a female taken October 26, 1954.

Orphnaeus brevilabiatus (Newport)

Localities: Ecuador: 6 mi. S. of Santa Rosa, El Oro; four, January 23, 1955; 27 mi. SW. of Quevado, Los Rios; one, February 5, 1955; Pichilingue, two, February 2, 1955.

Colombia: 15 mi. S. of Corinto, Cauca, one, March 6, 1955; 17 mi. W. of Sevilla, Valle, one, March 8, 1955; 27 mi. W. of Cali, Valle, March 21, 1955.

Peru: Monson Valley, Tingo Maria, December 18, 1954, and a variant specimen from the same locality taken October 10, 1954.

Chilenophilidae

Ribautia rossi new species

Body yellow, the head and prehensors chestnut.

Length, about 22mm. Pairs of legs, in all three specimens, 47.

Head about two thirds as wide as long; widest at middle; strongly rounded about the corners; caudal margin short and straight; no frontal suture. (Fig. 15). A distinct, small clypeal area toward anterior border of clypeus, its areoles very small, bearing three setae.

Median piece of labrum transversely oblong, the caudal face roughened but not dentate; lateral pieces moderately pectinate along inner half. (Fig. 11.) Maxillae presenting the usual general features. Prehensors much exposed from above laterally and anteriorly; claws when closed reaching distal end of the second antennal article; claw armed at base with an acute, conical black tooth, the prefemur with a similar but smaller tooth at distal end. Prosternum on anterior margin with a prominent rounded tooth each side of the median incision.

Ventral pores in a circular area beginning on second sternite and present on others of anterior half of body only. On each typical sternite two long sublateral setae on each side, these setae equal in length; sparsely arranged over the surface are fine and short hairs, those of two rows between the posterior major setae appearing especially conspicuous.

Last ventral plate wide, narrowing caudad, the caudal margin convex. Coxal glands opening through three well defined, large pores on each side, the posterior two of these pores free, the anterior one about half covered by the sternite. (Cf. fig. 12.)

Anal pores present.

Locality.—Ecuador: Pichilingue. Three taken February 1955.

This species much resembles the Colombian *R. fuhrmanni* but has ventral pores only on sternites of the anterior half of the body instead of on all from the second to the penult. It also differs in having only three coxal pores on each side instead of from 5 to 7 in having the median piece of the labrum free and edentate, and in having the teeth of the comb of the lateral pieces finely tipped rather than frayed distally. Pairs of legs 47 as against a normal 53.

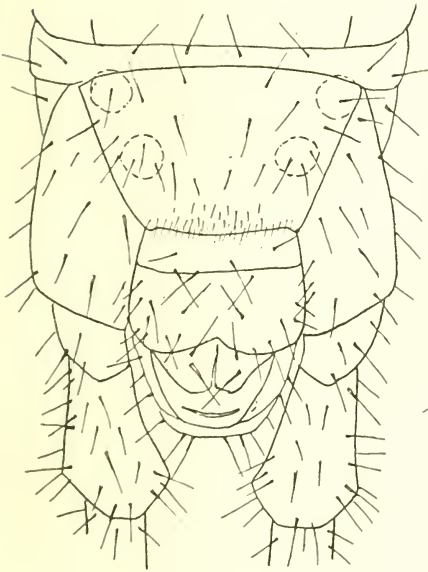
Genus *Schizoribautia* Brolemann

The known American species regarded as pertaining to this genus in the restricted sense may be separated by means of the following key.

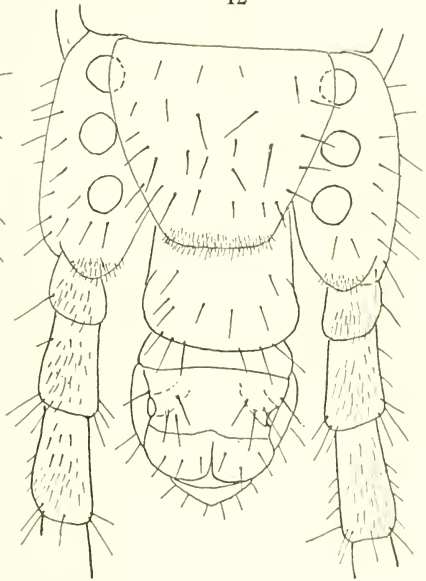
Key to Species of *Schizoribautia*

1. Ventral pores present on sternites from second or third to the penult 2
- Ventral pores present only on anterior half of body 4
2. Coxal glands in two groups on each side; ventral pore areas all undivided *S. centralis* (Silv.)
- Coxal glands in three groups; some ventral pore areas divided 3
3. Middle piece of labrum oblong, bearing numerous fine teeth *S. peruana* Verhoeff
- Middle piece narrowly triangular, margin simply fimbriate *S. titiaca* Turk

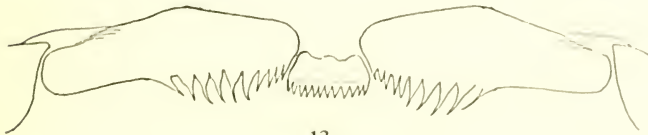
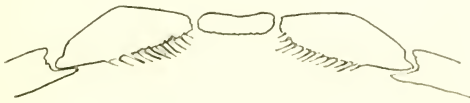
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13

4. Median piece of labrum nearly as wide as lateral pieces; sternites lacking the usual two large sublateral setae *S. seydi* (Ribaut)
 -- Median piece not this large; sternites with the long sublateral setae present 5
5. Prefemur of prehensors with no median tooth and prosternum also lacking true teeth *S. phana* (Chamb.)
 -- Prefemur with a well chitinized tooth or tubercle at middle; prosternum with distinct teeth or chitinous tubercles 6
6. Ventral pore areas increasing in size on posterior sternites of the series and becoming subelliptic; two setae on median line of clypeus but none caudoectad of clypeal area *S. carpisha* n. sp.
 -- Ventral pore area not thus changing in size and form; clypeus with two setae caudad of clypeal area but none on the median line
 *S. junina* n.sp.

Schizoribautia carpisha new species

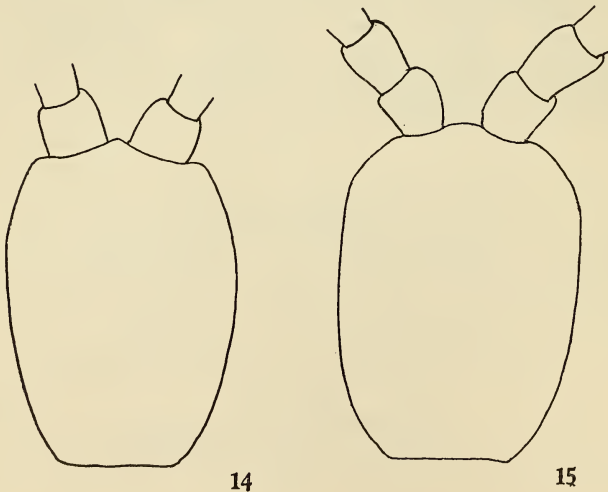
Length, 34mm. Pairs of legs, 51.

Head of the form shown in Fig. 14.

A clypeal area on the anterior border, composed of minute polygonal areoles and clearly set off. The area bears a pair of setae on its caudal portion and two on the median line in front of these. Back of the clypeal area on the median line are two setae.

Labrum with median piece transverse, bearing about twelve conical teeth; lateral pieces strongly pectinate on inner half (Fig. 13). Processes of first maxillae about equal in length; the inner process with six long setae on ventral face; the outer process with twelve similar setae. Coxae of second maxillae bearing at mesodistal corner the usual stout process; palpus on distal joints bearing numerous long setae which exceed the claw in length.

Prehensors much exposed laterally and anteriorly, the claws when



14

15

closed attaining the distal end of the second antennal article; basal plate proportionately short, overlapped by the cephalic plate; prefemur bearing within at distal and an acute black tooth, a similar one at base of claw; prosternum bearing a distinct dentiform and well chitinized nodulae each side of the median incision.

Of the two large sublateral setae on each side of the typical sternite the anterior is moderately longer than the posterior; minute hairs sparsely distributed over the sternite. Ventral pores in a median circular area beginning on second and present on others of anterior half of body. Last sternite broad. Coxal glands in three clusters, their pores free.

Locality.—Peru: Carpish Mountains, 40 mi. SW. of Tingo Maria.

Schizoribautia junina new species

Light brownish, the head and prehensors chestnut.

Length, 43mm. Pairs of legs, 51.

Head oblong, nearly two-thirds as wide as long, a little widest at level of labrum, narrowing in conspicuously toward ends.

A clypeal area on anterior border, its areolation fine; the area bearing four setae, two at middle and two near caudal edge; on each side of clypeus caudoectad of the area two setae, one much longer than the other.

Median piece of labrum, subtrapeziform, bearing on caudal side about ten close-set conical teeth which decrease in size from the middle ectad. Lateral pieces of labrum strongly pectinate as in *carpisha*. First maxillae with inner processes each bearing eleven stout setae on its ventral face, the four process or palpus bearing six similar setae toward distal end. Coxae of the second maxillae separated, each bearing the usual process at distomesal corner; distal article of palpus bearing numerous long setae, the adjacent joint bearing fewer similar setae.

Prehensors much exposed from above as usual; claws when closed attaining distal end of second antennal article; femuroid with a black conical tooth at distal end and a smaller tooth near middle; claws also with a stout tooth at base; prosternum anteriorly with two dark teeth.

Sternites not sulcate. Ventral pores in a circular area beginning on the second sternite and present only on other sternites of anterior half of body. Each sternite bearing two submarginal major setae on each side, of which the anterior is much the larger.

First spiracle largest, vertically elliptic, the others circular.

Last ventral plate broad, narrowing caudad, the caudal margin convex.

Coxal glands in three clusters on each side, the three pores covered by the sternite.

Anal pores present.

Locality.—Peru: 37 km. E. of Cashuamayo, Junin. Two specimens taken October 15, 1954.

- Schendylurus andesicola* n. sp. Fig. 1. Head in outline. Fig. 2. Last sternite. Fig. 3. Second tarsal joint of anal leg.
- Schendylurus dentifer* n. sp. Fig. 4. Head in outline. Fig. 5. Labrum.
- Schendylurus pallidus lomanus* n. subsp. Fig. 6. Head in outline. *Ityphilus calinus* n. sp. Fig. 7. Head. *Zygethmus pantinuss* n. sp. Fig. 8. Head. Fig. 9. Anal leg.
- Schendylurus pallidus lomanus* subsp. n. Fig. 10. Caudal end of body, ventral view. *Ribautia rossi* n. sp. Fig. 11. Labrum. Fig. 12. Caudal end of body, ventral view. *Schizoribautia carpisha* n. sp. Fig. 13. Labrum.
- Schizoribautia carpisha* n. sp. Fig. 14. Head in outline. *Ribautia rossi* n. sp. Fig. 15. Head in outline.